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AP/13008



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ON THIS 4TH DAY OF JUNE, 2003

By Richard M. Best

4981\*318 (PM-1882B)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

KENNETH SHAFER ET AL :

SERIAL NO.: 09/853,406

: ART UNIT: 1731

FILED: MAY 11, 2001

: EXAMINER: LOPEZ, CARLOS N.

FOR: CIGARETTE WITH SMOKE  
CONSTITUENT ATTENUATOR

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

APPEAL BRIEF

REAL PARTY IN INTEREST

The real party in interest is Philip Morris Incorporated by virtue of an assignment  
duly recorded in the Patent and Trademark Office on May 11, 2001, at Reel 011805 Frame  
0839 (6 pages).

RELATED APPEALS AND INTERFERENCES

Appellant is unaware of any other appeals or interferences which will directly affect  
or be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1-16 are pending in this application. Claims 1-9 and 13 have been withdrawn from further consideration, and remaining claims 10-12 and 14-16 are pending in this application and stand rejected. No claims have been allowed, and the rejected claims constitute the claims on appeal.

STATUS OF AMENDMENTS

No response was filed to the Final Office Action dated January 29, 2003. The amendments submitted prior to the Final Office Action have been entered, and a copy of claims 10-12 and 14-16 is attached as an appendix to the Appeal Brief.

SUMMARY OF THE INVENTION

In accordance with the present invention, smoke constituent reduction is achieved by resolving from puff-to-puff analysis at which location along a tobacco rod production of a particular smoke constituent is maximized, and locally applying an inhibitor/attenuator at the resolved location to thereby reduce production of the constituent. Such is a selective procedure, and the remainder of the tobacco rod is left untreated so as to minimize impact on the taste and burn characteristics of the cigarette. (Specification page 1, lines 10-14)

A fundamental aspect of all embodiments of the present invention is a process of resolving at which location along a tobacco rod (corresponding to one or more of a puff count) where the target (preselected) smoke constituent is maximized. This is followed by applying an inhibitor/attenuator of the target smoke constituent at the corresponding rod location. Also, other classes of smoke constituents in either the gas or particulate phases

of smoke may maximize at locations other than the free end or tip of the cigarette, and accordingly, the cigarette would be modified at such other locations. (Specification page 4, lines 21-27)

The concentration of mainstream smoke constituents changes on a puff-by-puff basis starting with the lighting puff and progressing down the tobacco rod. Those compounds which occur at significantly higher concentrations in one or two puffs of a cigarette can be selectively reduced by modifying only that portion of the cigarette corresponding to those puff(s). (Specification page 5, lines 14-18)

### **THE ISSUES**

The issues in this appeal include the following:

1. whether or not claims 10, 11 and 14-16 are patentable under 35 USC §102(b) over Sanford et al US 3,667,479 ("Sanford"); and
2. whether or not claim 12 is patentable under 35 USC §103 over Sanford and Fournier et al US 6,289,898 ("Fournier").

### **GROUPING OF CLAIMS**

For purposes of this appeal each of the rejected claims should be separately considered, and arguments in support of patentability are submitted below.

### **ARGUMENT**

In support of patentability, appellant submits the following.

Appellant respectfully submits that the claims herein define a process for producing a cigarette as well as the cigarette itself which are neither shown nor suggested by the prior

art taken alone or in combination with one another. Specifically, the process of claims 10, 11 and the cigarette product of claims 14-16 are not anticipated by Sanford, and claim 12 is not rendered obvious by the combination of Sanford and Fournier, for the following reasons.

As described in the specification and defined in the claims, the process of the present invention includes the steps of determining at which location along a tobacco rod a preselected smoke constituent is maximized. Once that location is determined an inhibitor/attenuator substance of the preselected smoke constituent is applied to the tobacco rod at that particular location. The step of application of the inhibitor/attenuator is limited to the rod location where the particular preselected smoke constituent is maximized.

This is an extremely selective process totally unlike the prior art.

Fundamentally, the Sanford reference relates to a cigarette with a modified paper wrapper. By way of background, Sanford explains that throughout the smoking process from the tip end to the butt end there is a gradual increase of certain smoke constituents such as particulate matter, tar, nicotine and others. A reduction in the delivery of these constituents over the entire length of the cigarette would provide a more pleasing taste when smoking the later portion of the cigarette. Hence, the overall objective of Sanford is an improved cigarette where the constituent delivery is gradually reduced during the smoking process which results in uniform constituent delivery on a puff-by-puff basis. There is no selectivity, and instead the delivery of total particulate matter (TPM) is reduced by diluting the tobacco smoke with incoming air.

The primary objective of Sanford is achieved through modification of the paper wrapper surrounding the tobacco rod. Preselected areas of the wrapper are modified by treating the wrapper with combustion supporting oxidizing agents. As a result, those treated portions of the paper wrapper are burned away in advance of the burning coal to provide openings in the wrapper. As the cigarette is smoked, air is drawn into and through these openings to dilute the smoke delivered to the butt end of the cigarette. This dilution results in a decrease in TPM delivery which improves the taste of the smoke in these later puffs. Sanford identifies a number of specific combustion supporting oxidizing agents which are applied to the paper wrapper.

Unlike the present invention, Sanford simply burns holes in the paper wrapper which allows more air to be combined with the tobacco smoke and thereby dilute the smoke and decrease smoke constituent delivery. Sanford does not apply an inhibitor/attenuator of a preselected smoke constituent to the paper wrapped tobacco rod. Sanford's procedure is totally different and far field from the present invention defined in the pending claims. Unlike Sanford an inhibitor/attenuator of a preselected smoke constituent is applied at a determined rod location. No such inhibitor/attenuator or any reasonable equivalent thereof is applied or even suggested in Sanford. Instead Sanford simply accelerates the burning of the paper wrapper in order to introduce more air and thereby dilute the smoke for a reduction of excessive constituent delivery. Instead of an inhibitor/attenuator, Sanford applies a combustion supporting oxidizing agent over a significant portion of the wrapped tobacco rod.

Fournier does not address the deficiencies of the primary Sanford reference. Instead Fournier is simply applied for its disclosure of ammonium bicarbonate. Accordingly, claim 12 is not rendered obvious by the combination of Sanford and Fournier for the same reasons noted above in distinguishing the primary Sanford reference.

Additionally, appellant respectfully submits that the combination of Sanford and Fournier is improper because there is no suggestion, teaching or motivation to combine the prior art in this manner.

35 USC §103 requires that the claimed subject matter as a whole not be obvious to a person of ordinary skill in the art at the time the invention was made. This phrase guards against entering into the tempting, but forbidden zone of hindsight. Appellant respectfully submits that the Examiner is resorting to prohibited hindsight in the rejection of claims 12 while utilizing the present disclosure as a blueprint for the formulated rejection. While the Examiner may properly reject the claims in this application by showing a suggestion, teaching or motivation to combine the prior art, no such suggestion, teaching or motivation exists in the prior art combination of Sanford and Fournier relied upon in the rejection. Instead the Examiner correctly concludes that Sanford does not teach or suggest the application of an inhibitor/attenuator of the smoke constituent at the determined optimum location, but then improperly concludes that since bicarbonates are old as shown by Fournier it would be obvious to incorporate bicarbonates in the cigarette construction of Sanford. But where is the suggestion, teaching or motivation to make this combination? Absent the present disclosure there is no such suggestion, teaching or motivation.

Appellant again stresses that the substance applied by Sanford is not an inhibitor/attenuator of the targeted smoke constituent. Instead it is simply a combustion promoter. Where is the suggestion of substituting a bicarbonate for a combustion promoter?

Appellant respectfully submits that the Examiner must provide full reasoning as to what motivation or teaching in the prior art would suggest combining the references relied upon in the obviousness rejection. It is well established that the Examiner's general common knowledge and common sense do not substitute for the authority required by law to reject a claim for obviousness. In re Sang-Su Lee, 61 USPQ 2d 1430 (CAFC 2002).

The Examiner must consider the references as a whole, In re Yates, 211 USPQ 1149 (CCPA 1981). The Examiner cannot selectively pick and choose from the disclosed multitude of parameters without any direction as to the particular one selection of the references without proper motivation. The mere fact that the prior art may be modified to reflect features of the claimed invention does not make the modification, and hence the claimed invention, obvious unless the desirability of such modification is suggested by the prior art. In re Baird, 29 USPQ 2d 1550 (CAFC 1994) and In re Fritch, 23 USPQ 2d 1780 (Fed. Cir. 1992). Appellant disagrees with the Examiner why one skilled in the art with the knowledge of the references would selectively modify the references in order to arrive at the appellant's claimed invention. The Examiner's argument is clearly based on prohibited hindsight reconstruction.

In summary, obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching, suggestion, or incentive supporting this combination. In re Geiger, 2 USPQ 2d 1276 (Fed. Cir. 1987). Appellant respectfully submits that there is no reason for one skilled in the art to combine Sanford and Fournier in the rejection of claim 12, and such rejection should be withdrawn.

It is abundantly clear that claims 10-12 and 14-16 define an invention unanticipated and unsuggested by the prior art relied upon in the rejection. Notice to that effect is respectfully requested.

### CONCLUSION

In view of the above argument, it is submitted that claims 10-12 and 14-16 are indeed patentable over the prior art, and it is respectfully requested that the rejection of these claims be reversed.

Respectfully submitted,

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RMB/alh/262543  
Attachment: Appendix

## APPENDIX

### CLAIMS ON APPEAL

Application Serial No. 09/853,406

Filed: May 11, 2001

10. A process of producing a cigarette comprising the steps of wrapping a tobacco rod with paper, determining at which location along the tobacco rod where a preselected smoke constituent is maximized, and applying an inhibitor/attenuator of the preselected smoke constituent at the determined rod location, said applying step limited to said determined rod location.

11. A process as claimed in claim 10 wherein the preselected smoke constituent is formaldehyde.

12. A process as in claim 10 wherein the inhibitor/attenuator is ammonium bicarbonate.

14. A cigarette having a tobacco rod wrapped in paper, the tobacco rod having a location along its length where a smoke constituent is maximized, an inhibitor/attenuator of the smoke constituent at that location, and wherein the remainder of the cigarette is substantially free of said inhibitor/attenuator.

15. A cigarette as in claim 14 wherein said smoke constituent is an aldehyde.

16. A cigarette as in claim 15 wherein the smoke constituent is formaldehyde.